

1 WE CLAIM:

2
3 1. A process for preparing styrene comprising:
4 catalytically dehydrating 1-phenylethanol in the
5 liquid phase
6 wherein the process is performed in the presence
7 of at least 0.1 %wt of a chain transfer agent.

1 2. The process of claim 1 in which the chain
2 transfer agent is selected from the group consisting
3 of phenol, methylphenol, ethylphenol, benzylalcohol
4 and benzoic acid.

1 3. The process of claim 1 in which the process is
2 performed in the presence of an acidic catalyst.

1 4. The process of claim 3 in which the catalyst is
2 an aliphatic or aromatic sulfonic acid.

1 5. The process of claim 1 in which the process is
2 performed at 150°C to 350°C.

1 6. A process for preparing styrene comprising:
2 a) catalytically dehydrating a feed comprising 1-
3 phenylethanol in the liquid phase in a reactor to
4 obtain a product stream comprising chain transfer
5 agent; and,
6 b) recycling at least part of the chain transfer
7 agent-containing product stream to the reactor to be
8 combined with the feed.

1 7. A process for preparing styrene comprising:
2 (i) contacting propene and ethylbenzene
3 hydroperoxide in the presence of a heterogeneous
4 catalyst to obtain propylene oxide and 1-
5 phenylethanol;
6 (ii) separating 1-phenylethanol from the reaction
7 mixture obtained in step (i); and,
8 (iii) introducing the 1-phenylethanol obtained in
9 step (ii) into a process for preparing styrene

10 comprising catalytically dehydrating 1-phenylethanol
11 in the liquid phase wherein the process is performed
12 in the presence of at least 0.1 %wt of a chain
13 transfer agent.